

Impact of sars-COV-2 on the attitudes of patients with prosthodontic needs

Sars-COV-2 in prosthodontic dentistry patients

Numan Tatar¹, Ayşe Karabaş²

¹Department of Prosthodontics, Faculty of Dentistry, Inonu University, Malatya

²Department of Prosthodontist, Private Practise, Gaziantep, Turkey

Abstract

Aim: SARS-CoV-2 has caused a global pandemic that has negative consequences for many parts of life. To our knowledge, no study has assessed the effect of the SARS-CoV-2 pandemic on a possible delay in prosthodontic treatments because of a potential concern of contamination in individuals. Therefore, the purpose of this study was to assess this potential impact of fear, as well as oral health-related quality of life, in partially edentulous patients using questionnaires during the SARS-CoV-2 pandemic.

Material and Methods: A total of 135 partially edentulous patients (74 females and 61 males aged 18-70 years) participated in this study. A complete questionnaire consisting of general knowledge questions on SARS-CoV-2 and the OIDP scale, which evaluates the effect of oral status on daily activities were used in participants.

Results: Statistical analyzes showed that participants with a history of SARS-CoV-2 and/or who are aware of a member of their social circle with a history of the virus, and/or who is deceased, were unwilling to receive dental care during the pandemic. Most of the participants between the ages of 31 and 60 were more worried about the transmission of SARS-CoV -2 during dental treatment.

Discussion: Concerns about SARS-CoV -2 contamination of patients over 30 years of age may have a negative impact on oral health due to delayed prosthodontic treatments.

Keywords

SARS-CoV-2, Dental Treatment, Oral Health, Fear of Contamination

DOI: 10.4328/ACAM.20841 Received: 2021-09-03 Accepted: 2021-10-21 Published Online: 2021-11-04 Printed: 2022-01-01 Ann Clin Anal Med 2022;13(1):58-61

Corresponding Author: Numan Tatar, Department of Prosthodontics, Faculty of Dentistry, Inonu University, Malatya, Turkey.

E-mail: numan.tatar@inonu.edu.tr. P: +90 422 341 01 05 / +90 422 341 63 03 F: +90 422 341 11 07

Corresponding Author ORCID ID: <https://orcid.org/0000-0003-3947-9007>

Introduction

A new type of coronavirus SARS-CoV-2 has been detected in Wuhan in 2019 with potential findings of pneumonitis. It began as an epidemic through droplets transmission during coughing and sneezing, as well as breathing of infected individuals, and turned into a global pandemic [1]. Contamination with surfaces and fecal-oral transmission have also been reported [2]. Dentists have been reported to be at a higher contamination risk due to the intense aerosol and airborne particles that occur during their treatments [3]. Therefore, at the beginning of the pandemic, only emergency care was recommended to dentists, however, currently these cautions are being gradually removed for the prevention of oral diseases [4].

Threats of contamination during an epidemic have been reported to increase fear and stress in individuals [5]. Similarly, it is clear that SARS-CoV-2 has caused negative psychological outcomes, including worldwide fear due to the lack of effective vaccination to defeat SARS-CoV-2 worldwide [6,7]. Previously, anxiety levels due to SARS-CoV-2 in patients related to dental treatments have been stated in the literature. Dental patients have been reported not to have a willingness to attend dental appointments regardless of an emergency. However, patients undergoing orthodontic treatment have been stated to be more concerned about an extension of treatment duration [8]. In addition, previously, the anxiety status and willingness of the patients have been evaluated in dental patients who need to receive pedodontics [9] and orthodontic treatment [10]. However, to our knowledge, no studies have focused on anxiety levels or willingness and fear of contamination in patients requiring prosthodontic treatments. Therefore, the aim of this study was to compare people's awareness of SARS-CoV-2 and the dental treatment approach, as well as the effect of this disease on oral and dental health by using demographic data.

Material and Methods

A total of 135 patients, including 74 female and 61 male patients between the ages of 18 to 70 years, who applied to the Department of Prosthodontics, Faculty of Dentistry, Inonu University and were partially edentulous, were involved in the study. Ethical approval for the study was obtained from (Blinded) University Clinical Research Ethics committee (#2020/966). All participants signed an informed consent form before participating in the study. Information about gender, age, marital and educational status, employment status, and the presence of any chronic diseases in patients was recorded.

Questionnaires: Two different questionnaires have also been applied to patients including the general knowledge about SARS-CoV-2 and also the fear of contamination during dental treatments (Table 1-3). Questionnaire questions measuring information source, knowledge level, attitude towards coronavirus patients, risk knowledge, awareness, and demographic data were used in the study. In addition, Oral Impact on Daily Performance (OIDP) survey was used to monitor oral impact on daily activities for the last 6 months.

Statistical analysis: The obtained data were evaluated using commercially available software (SPSS 25.0, IBM, Chicago, IL, USA). The Kolmogorov-Smirnov test was used to determine the normal distribution of the data. Pearson's Chi-square analysis,

Yates corrected Chi-Square analysis, and Cramer's V-coefficient analysis were used for statistical analysis. The data were expressed as mean ± standard deviation. A P-value < 0.05 was considered statistically significant.

Results

The current study involved 74 females and 61 males. There were no significant differences between the ages of the male and female participants (p>0.05). Educational status was also similar in both genders (p>0.05).

Twenty-three of 135 participants (24.4%) found dental treatments to be risky in terms of SARS-CoV -2 transmission (p<0.01) (Table 1). Gender-based analysis results showed that male participants found dental treatments riskier in terms of SARS-CoV -2 transmission compared to females, however there was no significance (p>0.05) (Table 2). The presence or absence of someone infected with SARS-CoV -2 in their social circle did not influence the participants' decisions with respect to the risk of SARS-CoV-2 transmission (p>0.05) (Table 1).

The majority of participants (23 males (51,1%), 45 (50%) females) thought that SARS-CoV -2 is the most dangerous disease in Turkey at the moment (p<0.01) and, the gender of participants did not affect the result (p>0.05) (Table 2). Participants between the ages of 18 to 30, which constitute 40% of the study participants, did not report dental treatments as risky in terms of SARS-CoV -2 transmission. In addition, only a limited number of (13.3%) participants in the 18-30 age

Table 1. Thoughts of people with/without SARS-CoV-2 about the transmission of SARS-CoV-2 during dental treatment.

PATIENTS WERE AWARE OF A MEMBER OF THEIR SOCIAL CIRCLE WITH A HISTORY OF THE VIRUS				
		YES	NO	P
I think dental treatment is risky during pandemic	Strongly disagree	11(24,4%)	4(4,4%)	0.001*
	Do not agree	1(2,2%)	5(5,6%)	
	Indecisive	0	16(17,8%)	
	Agree	10(22,2%)	20 (22,2%)	
	Absolutely	23(51,1%)	45 (50%)	

Table 2. Reflections of different genders on the risk of SARS-CoV-2 transmission of dental treatment and thoughts on the most dangerous diseases in Turkey.

		FEMALE	MALE	P
I think dental treatment is risky during pandemic	Strongly disagree	13(17,6%)	2(3,3%)	0.001*
	Do not agree	1(2,2%)	5(5,6%)	
	Indecisive	0	16(17,8%)	
	Agree	10(22,2%)	20 (22,2%)	
	Absolutely	23(51,1%)	45 (50%)	
I think having dental treatment is risky in terms of SARS-Cov2	Strongly disagree	13(17,6%)	2(3,3%)	0.038*
	Disagree	1(1,4%)	5(8,2%)	
	Indecisive	8(10,8%)	8(13,1%)	
	Agree	17(23%)	13 (21,3%)	
	Absolutely agree	35(47,3%)	33 (54,1%)	
Coronavirus is the most dangerous disease in Turkey	Strongly disagree	9(12,2%)	3(4,9%)	0,55*
	Disagree	7(9,5%)	9(14,8%)	
	Indecisive	8(10,8%)	7(11,5%)	
	Agree	24(32,4%)	18(29,5%)	
	Absolutely agree	26(35,1%)	24(39,3%)	

Table 3. Reflections of different ages on the risk of SARS-CoV-2 transmission during dental treatments

	AGE					P	
	18-30	31-40	41-50	51-60	61-70		
I think having dental treatment is risky in terms of SARS-Cov2	Strongly disagree	6(40%)	4(7,50%)	1(2,70%)	1(4,20%)	3(50%)	0,038*
	Disagree	3(20%)	1(1,90%)	2(5,4%)	-	-	
	Indecisive	1(6,70%)	12(22,60%)	3(8,10%)	-	-	
	Agree	3(20%)	9(17%)	10(27%)	8(33%)	-	
	Absolutely agree	2(13,30%)	27(50,90%)	21(56,80%)	15(62,5)	3(50%)	
Coronavirus is the most dangerous disease in Turkey	Strongly disagree	4(26,70%)	6(11,30%)	2(5,40%)	-	-	0,55*
	Do not agree	1(6,70%)	4(7,50%)	6(16,20%)	5(20,80%)	-	
	Indecisive	2(13,30%)	11(20,80%)	2(5,40%)	-	-	
	Agree	1(6,70%)	22(41,50%)	12(32,40%)	6(25%)	1(16,70%)	
	Absolutely agree	7(46,70%)	10(18,90%)	15(40,50%)	13(54,20%)	5(83,30%)	

group reported a higher risk due to dental treatments (Table 3). On the contrary, less than 8% of patients between the ages of 31 to 60 years thought that dental treatments were more likely in the transmission of SARS-CoV -2. Most of the participants in this age range (31-60) had higher concerns regarding SARS-CoV-2 transmission during dental treatments ($p < 0.01$) (Table 2 and 3).

Discussion

The global outbreak of SARS-CoV-2 has affected many parts of life, including dental and medical treatments. Previously, the state of anxiety and willingness of patients towards pediatric [9] and orthodontic treatments [10] during the SARS-CoV-2 pandemic have been evaluated. However, to the best of our knowledge, this is the first assessment of patients in prosthodontic dentistry. Current results showed that the presence or absence of a person infected with SARS-CoV-2 in his or her social circle did not influence patients' decisions about the risk of COVID-19 transmission. Furthermore, patients between the ages of 31 and 60 were more concerned about the transmission of SARS-CoV -2 during dental treatments.

The current study was carried out between July and October 2019, when SARS-CoV -2 was partially controlled and quarantine rules were partially lifted in Turkey. However, in this study, participants over the age of 30 still expressed anxieties about SARS-CoV -2 transmission. Similarly, Cotrin P, et al [10] also reported that at the onset of the pandemic in Brazil, although the number of cases was low, patients were concerned about SARS-CoV-2 transmission. This might be due to the fact that it becomes easier to obtain global information about the pandemic because of social media use, which is positively correlated with anxiety [11].

It has been reported that the SARS-CoV-2 pandemic affects orthodontic appointments [10]. Cotrin P, et al. [10] reported that females undergoing orthodontic treatment were more anxious compared to males in terms of SARS-CoV-2 transmission and less worried regarding treatment delay. In the current study, participants of both genders defined dental treatments as risky in terms of SARS-CoV -2 transmission. This could be due to the age differences between participants in the two studies. In addition, this difference may be due to the timing and type of treatment in the two studies.

It has been reported that patients postpone medical treatments because of contamination with SARS-CoV-2, which could later

promote the risk of health problems in the near future [12]. A similar observation was also reported by Campagnaro R, et al. [9] that 86% of parents whose children had dental trauma during pandemic did not apply dental units, and 24.4% of parents canceled undergoing treatments of their children. In the current study, 73,3 % of the participants found prosthetic treatments risky during the pandemic. Therefore, it might be suggested that the fear of SARS-CoV-2 contamination during dental treatments may cause negative oral health outcomes.

Conclusion:

In conclusion, SARS-CoV-2 has affected our lives in many different ways. Concerns about SARS-CoV-2 contamination of patients over 30 years of age may have a negative impact on oral health by delaying prosthodontic treatments.

Acknowledgment

We would like to thank Hilal Yağın for her kind assistance during statistical analysis.

Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

Animal and human rights statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.

Funding: None

Conflict of interest

None of the authors received any type of financial support that could be considered potential conflict of interest regarding the manuscript or its submission.

References

1. Wu F, Zhao S, Yu B, Chen YM, Wang W, Song ZG, et al. A new coronavirus associated with human respiratory disease in China. *Nature*. 2020;579(7798):265-9.
2. Wu JT, Leung K, Leung GM. Nowcasting and forecasting the potential domestic and international spread of the 2019-nCoV outbreak originating in Wuhan, China: a modelling study. *Lancet*. 2020;395(10225):689-97.
3. Thoracic S. Expert consensus for bronchoscopy during the epidemic of 2019 novel coronavirus infection (Trial version). *Chin J Tuber Resp Dis*. 2020;43(3):199.
4. Volgenant CMC, Persoon IF, de Ruijter RAG, de Soet JJH. Infection control in dental health care during and after the SARS-CoV-2 outbreak. *Oral Dis*. 2021;27(3):674-83.
5. Biçer İ, Çakmak C, Demir H, Kurt ME. Koronavirüs anksiyete ölçeği kısa formu: Türkçe geçerlik ve güvenilirlik çalışması. *Anat Clin J Med Sci*. 2020;25:216-25.
6. Dong L, Hu S, Gao J. Discovering drugs to treat coronavirus disease 2019 (COVID-19). *Drug Discov Ther*. 2020;14(1):58-60.
7. Wang D, Hu B, Hu C, Zhu F, Liu X, Zhang J et al. Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus-infected pneumonia in Wuhan, China. *Jama*. 2020;323(11):1061-9.

8. Peloso RM, Pini NIP, Sundfeld Neto D, Mori AA, Oliveria RCGD, Valarelli FP, et al. How does the quarantine resulting from COVID-19 impact dental appointments and patient anxiety levels? *Braz Oral Res.* 2020;34:84.
- [9. Campagnaro R, Collet GO, Andrade MP, Salles JPDSL, Fracasso MDLC, Scheffel DLS et al. COVID-19 pandemic and pediatric dentistry: Fear, eating habits and parent's oral health perceptions. *Child Youth Serv Rev.* 2020;118:105469.
10. Cotrin P, Peloso RM, Oliveira RC, de Oliveria RCG, Pini NIP, Valarelli FP et al. Impact of coronavirus pandemic in appointments and anxiety/concerns of patients regarding orthodontic treatment. *Orthod Craniofac Res.* 2020;23(4):455-61
11. Vannucci A, Flannery KM, Ohannessian CM. Social media use and anxiety in emerging adults. *J Affect Disord.* 2017;207:163-6
12. Karacin C, Bilgetekin I, Basal BF, Oksuzoglu OB. How does COVID-19 fear and anxiety affect chemotherapy adherence in patients with cancer. *Future Oncol.* 2020;16(29):2283-2293.

How to cite this article:

Numan Tatar, Ayşe Karabaş. *Impact of sars-COV-2 on the attitudes of patients with prosthodontic needs.* *Ann Clin Anal Med* 2022;13(1):58-61